THE

FIRST REPORT

OF THE

ENGINEERS TO THE DIRECTORS

OF THE

LEBANON SPRINGS RAILROAD.

1851.

NEW-YORK:

GEORGE F. NESBITT & CO., PRINTERS AND STATIONERS, TONTINE BUILDING,
CORNER OF WALL AND WATER STREETS.

1851.

LEBANON SPRING[illegible] RAILROAD.

A MEETING for the purpose [illegible]f organizing a Company for the construction of a Railroad from [illegible]ham, through New Lebanon, to connect with the Northern Roads [illegible]ermont, was held at Columbia Hall, Lebanon Springs, on Thursday, April 10th. Books of subscription were opened, the amount necessary to effect an organization was subscribed, and Directors were elected, to serve until the more full organization of the Company, and final location of the road, as follows:

DAVID CAMBELL, Lebanon Springs.
HENRY HULL, "
M. Y. TILDEN, New Lebanon.
CHARLES W. HULL, "
BENONI SHERMAN, "
ELIHU KIRBY, "
H. A. TILDEN, "
D. H. GARDNER, Stephentown.
J. W. FAIRFIELD, Hudson.
R. A. BARNARD, "
E. GIFFORD, "
R. F. CLARK, "
K. M. DAVIS, Nassau.

A Corps of Engineers were upon the ground immediately, for making the preliminary surveys and general estimates of grades, cost, &c. After a careful and thorough examination of the various lines proposed, the following Report of the principal Engineer will show the general result.

TO THE

DIRECTORS

OF THE

LEBANON SPRINGS RAILROAD.

In following out your instructions, I have examined and surveyed the proposed routes for the Lebanon Springs Railroad, and the results are contained in the following descriptions of the lines, with a plan and profile of each, which are respectfully submitted.

The line first surveyed, commenced at a point on the Hudson and Berkshire Railroad, about one mile west of East Chatham Station; thence passing under the Western Railroad, and following up a small stream to New Britain Summit, (New Lebanon;) thence along the slope of the hills, to Lebanon Valley.

From the starting point to New Britain Summit, requires a maximum grade of sixty feet per mile to reach the Summit; or a grade of fifty-six feet per mile, starting from the grade of the Western Railroad, where the line crosses the tract of that road. A more favorable grade was obtained descending into the Lebanon Valley, by keeping upon the slope of the hills; in no case requiring a greater maximum grade than fifty feet per mile.

It was known, from surveys made by Mr. Talcot, (the plans of which you have,) that a route could be had from the Lebanon Valley to Malden Bridge, with a maximum grade of forty-five feet per mile; and from Malden to unite with the Harlem or Hudson and Berkshire, near

Ghent. The topographical features of the country are such, that a feasible route might be expected. Most of this route, from Brainard's Summit to Malden Bridge, is composed of a large per cent. of curved line, and presents a considerable amount of heavy and expensive work, as the plan and profile will show. From Malden to Chatham Four Corners direct, a line has been surveyed by the direction of Mr. Sargent, Chief Engineer of the Harlem Railroad.

It is also known, from surveys made at the same time, the plans and profile of which you have in your possession, that a very feasible route with a maximum grade of forty feet per mile, can be had from Lebanon Springs, via the Shakers' Village and Whiting's Pond, to Edwards' Depot, eight miles from the Springs, where a connection can be made with either the Housatonic or Hudson and Berkshire Railroads, both leading to New-York city, and by the Western Railroad to Albany and Boston.

Attention was called to a route from Chatham Four Corners to Lebanon Valley, via "Federal Stores," (centre of Chatham;) and from the information which I have obtained, this route presents a good line, with a less amount of elevation to overcome than any other line which has been surveyed from Lebanon Valley to connect with the *Harlem Railroad*. Most of this line was surveyed by Mr. Cross, Assistant Engineer on the Harlem Railroad. To him, or to Mr. Sargent, the Chief Engineer, I must refer you for a description of that route.

From the Sand Knoll, (the point where Mr. Cross ended his survey,) the line passes over Brainard's Bridge Summit to the Shaker flats, in the valley of the Kinderhook Creek; thence up the valley of the Kinderhook and Lebanon creeks to Lebanon Springs. This portion of the route, following, as it does, most of the distance in the valley, presents a very smooth snrface and low grades. The amount of excavation is very small, not exceeding twenty thousand yards per mile! The curves have all a very large radius, in no case requiring less than three thousand feet.

From Lebanon Springs, the line follows up Lebanon Creek to Nichols' Summit, in Stephentown, where it forms a junction with two lines, one (the West line) passing through Stephentown and Berlin, to Petersburgh, where it unites with the Troy and Boston Railroad, over which a connection can be made with the Western Vermont Railroad at North Hoosac, and the Rutland and Washington road at Eagle Bridge. This route, following, as it does *principally*, in the valleys, presents a

very feasible and cheap route. From Lebanon Springs to Berlin Summit the grades and curves are very favorable, the maximum in no case exceeding fifty feet per mile. From Berlin Summit, north, the maximum grade is sixty feet for a short distance; though this may be reduced, as the total fall from the Summit to the junction with the Troy and Boston Railroad is only six hundred and forty feet, distance fourteen miles, making the average of about forty-five feet per mile.

The East route passes through Hancock and Williamstown, Massachusetts, crossing the Hoosac River at Noble's Bridge, near Williams College, and unites with a line surveyed by Mr. Harback, from that point, through Pownal, Vermont, to East Bennington, where it meets the Western Vermont Railroad. The line through Hancock and Williamstown does not run low in the valley, but keeps upon the slope of the hills, to avoid steep grades; thus giving a more uneven surface to the profile, and making the amount of excavation per mile greater than it otherwise would be, by adopting a steeper grade and following lower in the valley. The curves are all very favorable, in no case requiring less than two thousand feet radius. The per cent. of straight line is also considerable.

From Nichols' Summit to Hancock Summit, there is an ascent of two hundred and ninety-five feet in six miles, which will give an average grade of fifty feet per mile. From Hancock Summit to Noble's Bridge, a maximum grade of sixty feet per mile will be required for a considerable portion of the distance.

I should judge, from the topographical features of the country, and from what information could be gathered from Mr. Harback's survey, that the route from Noble's Bridge to East Bennington was nearly of the same character as the route from Nichols' Summit to Noble's Bridge, both in regard to grades and cost of construction.

The nature of the country through which the routes above described pass, is such as to require considerable examination and surveys prior to the location of a railroad, in order to determine the most feasible route. Therefore, it is not to be expected, that the lines I have surveyed are, in every instance, the best that the country will admit of; but that they may be improved by further examination before a location is adopted; but which were not deemed necessary for the present purposes in order to determine the general practicability of the lines and a comparison of the different routes proposed.

The general character of the routes surveyed is very favorable for

the construction of a good and permanent railroad, at a very reasonable expense. The earth excavations are comparatively small; are composed of a material easily removed, and suitable to forming a good road-bed; also, the amount of rock excavation is *very small*, and the amount of masonry is not extensive.

The computations and estimates for grading, are based upon a width of road-bed of twenty feet in excavation, and fifteen feet in embankment; the superstruction, upon the general plan adopted for railroad tracts at the present day.

The following estimates are made in subdivisions, corresponding with the different routes:

ESTIMATE OF THE COST OF CONSTRUCTION

From Hudson and Berkshire Railroad to Station 507, in Lebanon Valley, distance 9.22 miles.

Cost	$250,000

From Station 507, in Lebanon Valley, to Nichols' Summit, distance 7.20 miles.

182,198 cubic yards Earth Excavation	$27,330
745 " " Bridge Masonry	3,720
475 " " Culvert "	1,425
Road Crossings	500
Foundations for Masonry	800
Truss Bridging	2,000
Superstructure, including Turnouts	53,000
Right of Way	5,000
Fencing	4,500
Way Stations and Water Tanks	4,000
Total	$102,275

From Chatham Four Corners to Sand Knoll, via Federal Stores, distance 10.75 miles. For estimates, refer to Mr. Cross's report.

From Sand Knoll to Station 507, in Lebanon Valley, distance 4.30 miles.

89,426 cubic yards Earth Excavation	$13,415
1,568 " " Rock "	1,254
630 " " Bridge Masonry	3,150
260 " " Culvert "	780
Truss Bridging	1,800
Superstructure (including Turnouts)	27,380
Right of Way	3,600
Fencing	2,500
Way Stations and Water Tanks	3,000
Total	$56,879

From Nichols' Summit to Junction with Troy and Boston Railroad in Petersburg, (West line,) distance 22.50 miles.

594,187 cubic yards of Earth Excavation	$89,128 05
13,831 " " " Solid Rock Excavation	11,064 80
2,547 " " " Bridge Masonry	12,735 00
1,313 " " " Culvert Masonry	3,939 00
Road Brides and Crossings	1,500 00
Fonndations for Masonry	2,000 00
Truss Bridging	8,000 00
Superstructure, including Turnouts	141,740 00
Right of Way	18,400 00
Fencing	15,000 00
Depot buildings	10,000 00
Total	313,506 85

From Nichols' Summit to Noble's Bridge, (East line,) distance 17½ miles.

776,698 cubic yards of Earth Excavation	$116,504 70
9,161 " " " Rock "	7,329 00
3,111 " " " Bridge Masonry	15,555 00
2,071 " " " Culvert "	6,213 00
Road Bridges and Crossings	1,000 00
Foundations for Masonry	1,500 00
Truss Bridging	4,300 00
Superstructure, including Turnouts	108,720 00
Right of Way,	10,000 00
Fencing	10,000 00
Depot Buildings	6,000 00
Total	$287,121 70

From Noble's Bridge to East Bennington, distance about 13 miles.

Cost about	$300,000 00

RECAPITULATION.

	MILES.	COST.
From Hudson and Berkshire Railroad to Lebanon Valley, via New Britain	9.22	$250,000 00
From Lebanon Valley to Nichols' Summit	7.20	102,275 00
From Nichols' Summit to Junction in Petersburg, (West line)	22.50	313,506 85
	38.92	$665,781 85

From Hudson and Berkshire Railroad to Nichols' Summit, via New Britain	16.42	$352,272
From Nichols' Summit to Noble's Bridge, East Line	17.50	287,122
From Noble's Bridge to East Bennington	13.00	300,000
	46.92	$939,394
From Chatham Four Corners to Sand Knoll, via Federal Stores	10.75	$489,015
From Sand Knoll to Junction with New Britain Route in Lebanon Valley	4.30	56,879
From Junction with New Britain Route in Lebanon Valley, to Nichols' Summit	7.20	102,275
From Nichols' Summit to Junction in Petersburg	22.50	313,507
	44.75	$961,676

FEDERAL STORES ROUTE.

Mr. Cross, Engineer on the Harlem Railroad, who surveyed the routes via Malden Bridge and Federal Stores, has kindly furnished the Directors with his estimates of the latter route, section by section. The following is a summary of the eleven sections. The first eleven or twelve miles from Chatham to Lebanon Valley, by either of the three routes surveyed, are much more expensive than any other portion of either of the routes North, as will be seen by the estimate on the several surveys.

SUMMARY.

From Chatham Four Corners to Sand Knoll, distance 10.75 miles.

217,006 cubic yards Embankment, at 16c.		$30,380 84
875,311 do. Common Excavation, at 14c.		140,049 76
106,654 do. Rock do. $1,25		133,317 50
6,240 do. Masonry do. 7,00		43,680 00
9,300 lineal feet Cleaning and Grubbing, at 7c.		651 00
193,700 feet (board measure) Timber and Plank, at $25		4,842 50
115 acres Land, at $100		11,500 00
7,360 rods Fence, $1,50		11,040 00
11½ miles Superstructure		90,266 72
		$465,728 32
Add 5 per cent. for depots and contingencies		23,286 42
		$489,014 74

CHAS. S. CROSS, Engineer.

In submitting the results of the survey for your consideration, it may be well to make, briefly, some remarks in relation to the advantage and importance of this road when completed.

By referring to the railroads completed, and those in rapid progress of construction, at both termini of this route, it will be perceived that this is the only link wanted to complete the great interior chain of railroads connecting a large and productive portion of the Northern country with the great emporium of the Western world. It will also, when completed, make as direct and feasible a route as any other that can be had,—connecting Montreal, Ogdensburgh, and a large part of Vermont with New-York,—all of which have a large amount of business to do at that great commercial mart.

This section of railroad is of great importance also to the towns through which it passes, by affording them a rapid and cheap means of conveyance for freight and passengers. It is an enterprise to which they should subscribe liberally of their means, and should unite their energies to press forward to its early completion. It also affords to capitalists an opportunity for investment worthy of consideration; and no one can doubt this, when they look at the cheapness with which it can be constructed; the connections which it makes with other roads; and the large amount of local business which it is capable of affording, as will be seen by referring to the Table of Statistics.

Montreal sends a large number of passengers to take the ocean steamers. The Ogdensburgh Railroad, and the water communication through the Canadas, are passing a large amount of Western productions on to Lake Champlain, from whence they seek the best market; and, as New-York is the great mart, a large portion would naturally find its way to that emporium; and this route would partake largely of that business, especially in the winter season, during the close of navigation. The large and fertile agricultural and mineral region of Vermont will produce a large amount of business, which would naturally seek an outlet on this road to the South and South-east markets.

Though this road has a large and fertile section of country at its Northern terminus to give it business, it is not to be limited to that alone, for it passes through as fertile an agricultural region as can be found in Eastern New-York or New England, which will give it a large amount of local business.

N. BOARDMAN,

Engineer.

LETTER FROM MR. ADAMS.

JONATHAN ADAMS, Esq., Chief Engineer of the Rutland and Washington Railroad, directed Mr. BOARDMAN and Mr. LINSLEY, in the first preliminary surveys on some of the lines run. The following is extracted from Mr. ADAMS's letter to Mr. BOARDMAN, dated

"GRANVILLE, Vt., May 29th, 1851.

"I wish yon would say to the Directors, that I think it would be more for their interests to submit the plans, profiles, &c., to Mr. SARGENT, Chief Engineer of the Harlem Railroad, and request him to examine them, and the ground over which the line passes. Mr. SARGENT would obtain, by a slight examination, all the knowledge which I possess in relation to the matter, and would, no doubt, give a statement which would be of much more service to them than anything which I could make.

"The substance of all that I should be able to state in relation to the matter, I think, would be, that the ronte is uncommonly favorable, and that a good and available road may he constrncted over it, at a very moderate cost. This, I think, will appear manifest, hy an examination of the plans and profiles, to any one at all familiar with such matters.

"Very respectfully, yours, &c.,

"JONA. ADAMS."

LETTER FROM JAMES B. SARGENT, ESQ., CHIEF ENGINEER OF THE HARLEM RAILROAD.

CHATHAM FOUR CORNERS, Jnne 27, 1851.

TO THE DIRECTORS OF THE LEBANON SPRINGS RAILROAD COMPANY.

GENTLEMEN,—I have examined the maps and profiles, and received personal explanations from the Engineers, Mr. BOARDMAN and Mr. CROSS, relating to the surveys made by them of a line of Railroad projected by you, and which is designed to connect the Harlem Railroad with the Western Vermont and Rutland and Washington Railroads.

These surveys demonstrate the practicability of the ronte, and exhibit it as the only link necessary to form a *great interior* chain of railroads from New-York to Canada.

This link, by the surveys, extending through the towns of Chatham, New Lebanon, Stephentown, Berlin, and Petersburgh, to a point on the Troy and Boston road, from whence an advantageous connection with the Rntland and Washington and Western Vermont roads may he made, divides those towns *centrqlly*, and in a manner calculated to accommodate the local business thereof.

The length of the line thns surveyed is 44 72-100 miles. The heaviest grade used is sixty feet per mile, and the shortest radius employed in curvature is 1,432 feet. These result from *preliminary* surveys, and it is believed that a more minute examination of the line would result in the reduction of the distance and of the grades.

This ronte may be termed the *central one* of those examined. Two others, commencing at Chatham Four Corners, have been surveyed. The one on the East, following the line of the Hndson and Berkshire road to near East Chatham, and thence through New Britain, intersects the line of the first named survey on lands of Stephen Guyle. The one on the West, diverging from the central ronte $2\frac{3}{4}$ miles nortb of Chatham Four Corners, falls into the valley of the Kinderhook Creek, west of Federal Stores, and pursues that

valley through the village of Malden, and *near* Brainard's Bridge and East Nassau, and unites with the central route after passing the Brainard's Bridge Summit, at the *Sand Knoll.* These routes have each strong claims to be considered, in finally making a location; and without much more examination and investigation of the merits of each, I should deem it invidious to give preference to either.

Another and very important line has also been surveyed, which, diverging from that first described *at Nichols' Summit*, follows the West branch of the Kinderhook, entering the State of Massachusetts, in the town of Hancock, passing the village of the same name, and the Hancock Summit, descends the valley of the Green River to its junction with the Hoosac, and to the line of the Troy and Greenfield Road, or Troy and Boston Road as continued through Massachusetts. This line passes the villages of South Williamstown and Williams' College, and reaches the line of the Troy and Greenfield Road at a point about ten miles south-easterly of the junction of the route within the State of New-York, and which point it is proposed to reach through the line of the Troy and Greenfield and Troy and Boston Roads, in view of their connecting with the Rutland and Washington and Western Vermont Railroads. But the latter road may he reached with the Williamstown route through Pownal at Bennington, with a saving in aggregate distance of some five or six miles.

Between this route and the one wholly within New-York, there are many and serions snbjects appertaining to a judicious selection which should be thoroughly canvassed before either is preferred. It is sufficient therefore, for the purposes now designed, to say that both are feasible, both districts of country comparatively isolated as it regards intercourse with New-York, and both ahounding in resources that will largely aid in sustaining a line of railroad.

Taking, then, the central route from Chatham Four Corners, through Federal Stores and Lebanon Springs, to Petersburgh Corners, as before mentioned, there will be 44 72-100 miles of road to build; while, if the Williamstown route is pursued, the length of road required to reach the line of the Troy and Greenfield Road will be but 39 75-100 miles.

The condensed map prepared hy Mr. BOARDMAN, and which includes, also, portions of the lines surveyed by MR. CROSS, will give a hetter idea of the relative position and merits of all the lines, than the description I have heen enabled to make; and their estimates, which yon also have, render it unnecessary for me to speak of the cost of construction. I may remark, however, that the design should be to provide, in this respect, for a road of the *very first class*; as it is designed to connect with those which are heing constructed with a view to reaching that point. The policy of constructing the road, is to be determined, mainly, hy the evidence which can he adduced of its ability to remunerate the shareholders, and on this point, if we were to attempt an enumeration of the sources from which local business would be derived, however respectable it might appear, it would fail to give even a comparative idea of the business that must pass over such a road. A *central link*, connecting the city of New-York with the Canadas by a chain of roads, running in an almost direct line, cannot fail to strike the intelligent observer and the capitalist, however cautious, as offering a better guarantee for a remunerating investment than is usually to be found in the construction of roads of like extent. If, however, there are those who may wish to look more minutely into the local, or general sources from which business for the road may be derived, the ample statistics with which you are provided, will, I think, satisfy them that the general inferences which I have drawn, are fully sustained by the facts.

Respectfully snbmitted,

JAS. B. SARGENT, *Civil Engineer.*

GENERAL REMARKS.

By the foregoing Report and the following, it will appear that two lines of railroad, through two series of valleys, from Rutland, Vermont, south, to the Hoosac River, are to be completed by the close of navigation, 1851. The importance, therefore, of a link to connect both these roads with the Harlem road at Chatham, or the Housatonic road at Canaan, is seen at a glance.

One of the most important considerations ever offered in favor of the construction of railroads across the Green Mountains, was to "secure to Boston the business and travel of the valleys of Otter Creek and the Battenkill—a section of country fertile almost beyond parallel, in *explored* and *unexplored* mineral resources."

A large portion of this mineral wealth lies along the line of the Western Vermont road. Col. Wm. B. Gilbert, Chief Engineer of that road, in his recently published Report, says: "The ability of the Western Vermont road to share largely in this important trade, will appear evident from the fact, that, by the equated railroad distance, the distance from Rutland to New-York is forty-six miles less than the distance from Rutland to Boston.

"This fact is introduced to show that the business at present carried over the mountains, will, by the construction of the Western Vermont Railroad and the connecting link with Chatham, find its way to New-York, its ancient and established market: while the Western Vermont road will, in return, furnish to the Rutland and Burlington road a new business, that is of necessity compelled to seek other channels."

The other railroad from Rutland, south, passes through the counties of Washington and Rensselaer, said to be among the first and richest counties, having agricultural products to spare, west of Boston and the eastern markets. From an exhibit, published in a recent report of

the Rutland and Washington Railroad Company, over the signature of B. Blair, Esq., it is claimed that their road, connecting a chain of railway, three hundred and eighty miles in length when completed, passes through a country abounding in water-power and mineral wealth, and rich in agricnltural wealth. Connecting these parallel roads from Hoosac River to Rutland, with the Rutland road, which is already in successful operation, it forms the best outlet for the Valley of Lake Champlain.

This Valley forms a district about thirty miles wide, between the Green Mountains on the East, and Lake Champlain and the Champlain canal on the West, and is one of the best agricultural, mechanical and mineral regions in New-York and Vermont, and possesses, in rich supply, *all the elements* for controlling and sustaining railroads. In the language of the Report already quoted: "These roads reach a section abounding in the richest marble quarries in the Union; they are unequaled in all their varieties, except in statuary marble from Italy, and it is believed that this quality may soon be found. A branch to these quarries is being constructed for their convenience, and connecting with the road. From thirty-five to forty tons daily are produced, and it is believed that a hundred tons of marble will daily be produced within five years, requiring transport. The road must control this business, as well as the other kinds furnished from the vicinity. The line penetrates a district abounding in rare mineral products, and by geologists is said to exceed any part of the States. It produces iron ore, roofing slate, graphic slate, manganese, red and yellow ochre, limestone, copperas, glass sand, kaolin or porcelain clay, and twenty different varieties of marble. A steam-mill of large power is erected, and arrangements are making for others at the Rutland quarries, and the supply is inexhaustible.

"The water power along the line is scarcely equaled. The road is parallel for a short distance to the Battenkill, and is in convenient proximity to it for considerable distance. Within eight miles, this river, it is estimated, will fnrnish motive power for seven thousand eight hundred looms, or two hundred and seventy-three thousand spindles. At Gookins and Southerland Falls, on Otter Creek, is waterpower twice that of Lowell. At the latter place, the largest river in the State falls over a solid bed of marble one hundred and eighteen feet."

The untiring enterprise of the capitalists of Boston, has secured

the construction of three railroads across the Green Mountains, and lines up every river valley, to draw the trade and travel from the West and North. From this immense outlay of money, Boston capitalists have realized good returns—and yet, according to estimates made on good authority, Boston derives but one-fifth of the trade of Northern Vermont, Northern New-York and Canada, during the period of navigation! New-York, by her superior local advantage, draws the other four-fifths. It is only necessary to complete the contemplated parallel lines of railroad, thus opening adequate means of transportation, for New-York to retain the same proportion of trade and travel from the North during the period in which navigation is closed, as during the summer.

Should the Harlem or any other of the Southern roads, the Housatonic or the river roads, make this important connection, South, there are three different points where the connection could be made at the North.

First. At Hoosac Falls in North Hoosac: there both roads could meet on the Troy and Boston road, a little below the falls—one by way of Eagle Bridge, the other from North Bennington. But this would leave Bennington proper, a centre of large business, and Pownal, Williamstown, and Williams' College off of the line.

Second. At Williams' College, both the Northern roads could connect with the Southern line. The Western Vermont road through Pownal, and the Rutland and Washington road along the Hoosac River on the Troy and Greenfield road. But this point of connection would leave Petersburg and Berlin without a road, and lengthen the Washington County Road some five or six miles.

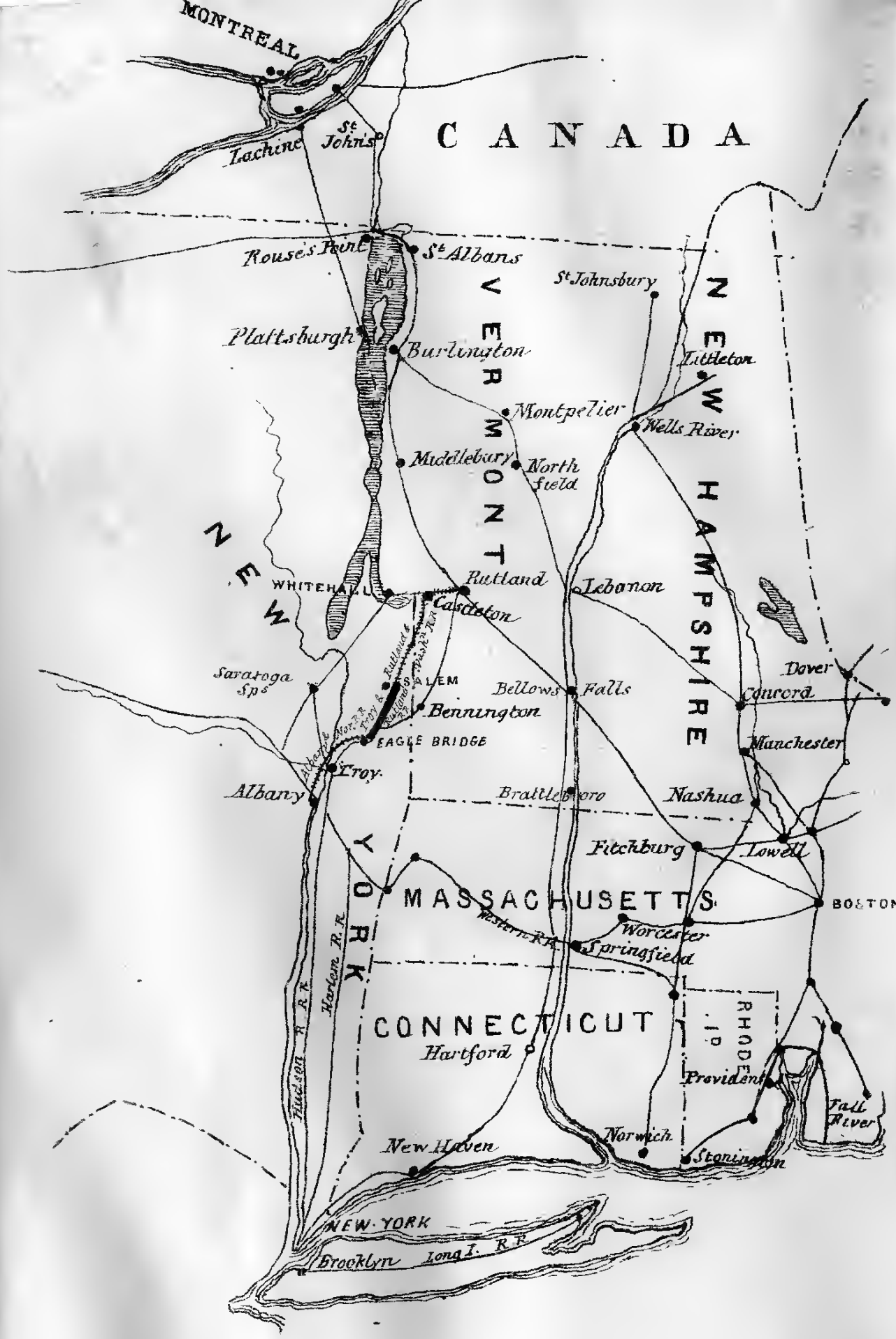
Third. And the best connection of all, would be at Stephentown, Nichols' Summit, four miles north of Lebanon Springs. From this point to Chatham Four Corners, to connect with the Harlem road, is twenty-two miles—or at East Chatham, via New Britain, seventeen miles; and to Canaan Flat Brook, to unite with the Housatonic and Hudson and Berkshire Road, but twelve miles.

TOWNS.	Population.	Acres.	Value of Real Estate.	Horses.	Cows.	Other Cattle.	Sheep.	Swine.	Bushels of Grain.	Cotton Factories.	Woollen Factories.	Scythe Factories.	Tanneries.	Other Mills.	Capital.	Product.
Nassau	3104	20,637	700,000	800	2000	3206	9,000	2700	118,000	2	5		1	32	134,300	
Stephentown	2548	20,530	517,000	600	1500	2800	12,000	1500	55,000		2		2	4	24,900	
Berlin	1845	17,737	482,000	500	1300	2200	12,000	1200	47,000		1			2	11,000	
Petersburgh	1876	16,694	600,000	525	1000	2150	13,000	1500	113,000					7	24,400	
Hoosac	3724	33,106	1,800,000	1000	1400	3200	60,000	4500	160,000	2	2	2		16	145,200	
Chatham																
Canaan																
New Lebanon																
Adams	6172	22,400	1,792,651	208	968	600	1109			10	2				545,000	762,800
										1 Calico.					75,000	35,000
										Furnace.						
										1500 tons.				Various.	48,800	210,100
Williamstown	2626	22,400	948,755	465	770	465	4196		40,143						28,000	34,000
Hancock	789	20,400	332,243	135	319	349	4155	147	15,261							
New Ashford	186	10,240	102,197	36	119	116	781		3,155							
Lanesborough	1229	15,280	443,742	179	429	349	7571		33,425							

In Williamstown, a bed of yellow ochre has been discovered, in digging a well, eighteen feet thick. Preparations are now making to get it out for market.

In Lanesboro' and New Ashford marble abounds, and only needs the facilities of railroad conveyance to send large quantities to market. One firm now has thirty-two saws running.

Williams College has about two hundred students, who, at their vacations, go and return. Most would go by the Southern route. At the commencement, in August, the number of visitors is very large. If a communication was opened between Lebanon Springs and the College, it would be a favorite ride.


MONTREAL
CANADA
Lachine
St Johns
Rouse's Point
St Albans
St Johnsbury
VERMONT
NEW HAMPSHIRE
Plattsburgh
Burlington
Littleton
Montpelier
Wells River
Middlebury
North field
NEW
WHITEHALL
Rutland
Lebanon
Castleton
Saratoga Sps
SALEM
Bellows Falls
Dover
Concord
Bennington
EAGLE BRIDGE
Manchester
Troy
Albany
Brattleboro
Nashua
Fitchburg
Lowell
YORK
MASSACHUSETTS
BOSTON
Worcester
Springfield
Hudson R. R.
Harlem R. R.
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Hartford
Providence
Fall River
New Haven
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